

NATIONAL PHOTOGRAPHIC INTERPRETATION CENTER



Top Secret

25X1

Imagery analysis report

Comparison of Three Soviet Solid Propellant Missile Final Assembly Facilities (S)

Top Secret

25X1

IAR-0004/70
25X1
SEPTEMBER 1979
Copy 169

Page Denied

Top Secret RUFF

25X1

25X1

COMPARISON OF THREE SOVIET SOLID PROPELLANT MISSILE FINAL ASSEMBLY FACILITIES (S)

ABSTRACT

1. [] This report is a photoanalytical comparison of three Soviet facilities believed to be solid propellant missile final assembly facilities—Votkinsk Missile Final Assembly and Checkout Facility [] Pavlograd Solid Motor Assembly and Test Support Facility [] and Petropavlovsk Probable Missile Assembly Facility []. The Votkinsk assembly facility has been engaged in missile final assembly and checkout since the late 1960s. The Pavlograd facility is the final assembly facility for solid rocket motors produced at Pavlograd Solid Motor Production Plant [] and on the basis of similarities to the Votkinsk facility, it could also be used for the final assembly of missiles. The Petropavlovsk assembly facility is not yet operational but will probably become the final assembly facility for SRBMs that are currently in development and/or production at the nearby Petropavlovsk Vehicle Assembly Plant [].

25X1

25X1

25X1

25X1

25X1

25X1

2. (U) This report contains six photographs and a table.

INTRODUCTION

3. (TSR) Figure 1 shows the locations of the three assembly facilities within the USSR. Votkinsk Missile Final Assembly and Checkout Facility is approximately 100 nautical miles (nm) south of the Trans-Siberian Rail Line and Petropavlovsk Probable Missile Assembly Facility is directly along the rail line. Pavlograd Solid Motor Assembly and Test Support Facility is situated within the Ukrainian SSR and has access to several rail lines within the western portion of the USSR. The location of these three assembly facilities near key rail network lines is essential for the shipment of assembled missiles throughout the USSR.

4. [] The Votkinsk, Pavlograd, and Petropavlovsk assembly facilities are in isolated areas a short distance from large missile production complexes. The facilities are dispersed within the USSR yet are in proximity to important transportation lines. Their similar rectangular site layouts are characterized by distinctive high-bay, rail-served missile assembly buildings. []

25X1

25X1

25X1

25X1

[] The similarities of the three facilities indicate that the Pavlograd and Petropavlovsk facilities may also be involved in the final assembly and checkout of solid propellant missiles. In the past, new construction programs identified at Votkinsk have provided an indication of the development of new missile systems. Major new construction programs, including the construction of new missile assembly buildings, have been underway at each facility since 1977. Rail sheds are at the two facilities (Votkinsk and Pavlograd) where the [] missile-associated railcar has been observed. It is expected that these railcars will also be seen at the Petropavlovsk facility when it is operational.

25X1



FIGURE 1. LOCATIONS OF THE THREE MISSILE ASSEMBLY FACILITIES WITHIN THE USSR

25X1

- 1 -

Top Secret

IAR-0004/79

Top Secret RUFF [REDACTED]

25X1

DESCRIPTION**Votkinsk Missile Final Assembly and Checkout Facility**

5. ([REDACTED]) The Votkinsk missile assembly facility is in an isolated area, 3.5 nm east of the city of Votkinsk and 5 nm east of Votkinsk Arms Machine and Steel Plant 235 ([REDACTED]) with which it has been associated. Votkinsk Plant 235 is involved in SRBM and ICBM/IRBM production.¹ The missile assembly facility is a final assembly and checkout facility for strategic and tactical missile systems and is subordinate to Votkinsk Plant 235.¹

6. (TSR) The Votkinsk missile assembly facility is road and rail served. It is wall secured and has a

roughly rectangular site plan. The facility includes 13 rail-served missile assembly buildings, containing a total of 28,805 square meters of roof cover, and one rail-served probable transshipment building, containing 1,199 square meters of roof cover (Figure 2). The assembly buildings were constructed in four phases. Table 1 lists the dates of each construction phase, the number of buildings constructed, the amount of roof cover of those buildings, and the missile systems believed to be associated with each construction phase. Construction phases II and III each resulted in a major expansion of the area of the facility, whereas the buildings being constructed during phase IV are scattered within the existing boundaries of the facility, possibly because of space limitations.

25X1

25X1

Table 1.**Rail-Served Missile Assembly Buildings—Four Construction Phases at Votkinsk Missile Final Assembly and Checkout Facility, USSR**

This table in its entirety is classified TOP SECRET RUFF

Phase	Construction Activity		No of Rail-Served Assembly Bldgs	Roof Cover (sq m)	Missile System in Development
	First Seen	Complete			
I	Mid-66	Mid-69	4	6,112	SS-13
II	Feb 69	Dec 74	6	12,090	SS-16/-20
III	Nov 74	Mid-77	2	8,659	Unknown
IV	Oct 77	Incomplete	1*	1,944	Unknown
				28,805	

*Only building completed thus far during phase IV.

25X1

25X1

Top Secret RUFF [REDACTED]

25X1

7. (TSR) One rail line extends into the missile assembly facility. Spurs from this line extend longitudinally into 12 of the assembly buildings and transversely into the thirteenth. Engineering and support wings for these rail-served assembly buildings are usually parallel to the long axis of the buildings. Figure 3 shows a typical rail-served missile assembly and checkout building at Votkinsk.

8. (TSR) The Soviets have concealed several sections of rail line from overhead observation. Two covered extensions are at the probable transshipment building (Figure 2). One is [REDACTED] meters and the other is [REDACTED]. Four [REDACTED] missile-associated railcars can be concealed under these extensions. A rail shed, [REDACTED] in the center of the facility could also conceal three or four missile-associated railcars. A shed over a dead-end siding covers two tracks and measures [REDACTED]. Six missile-associated railcars can be concealed in this shed.

9. (TSR) The Votkinsk missile assembly facility contains two ten-bay missile support equipment garages (Figure 2). These garages have not been

constructed at the other missile assembly facilities. Support facilities for Votkinsk are situated near the entrance and consist of a steamplant, a fire station, and four administration/support buildings.

Pavlograd Solid Motor Assembly and Test Support Facility

10. (TSR) This missile assembly facility is 6.3 nm southeast of Pavlograd Solid Motor Production Plant, 1.8 nm northwest of Pavlograd Solid Motor Test Facility [REDACTED], and adjacent to Pavlograd Ordnance Test Range [REDACTED]. The facility is fence secured and is separated into three distinct areas—an assembly and test support area, a test cell area, and an assembly and test fire area for small rocket motors. The test cell area is associated with the Pavlograd Solid Motor Test Facility. The assembly and test fire area is a road-served area for small rocket motors. The assembly and test support area is used for the final assembly of solid rocket motors produced at Pavlograd Solid Motor Production Plant.

25X1

25X1

25X1¹

25X1

25X1

25X1

25X1

Page Denied

Top Secret RUFF [REDACTED]

25X1

11. (TSR) The assembly and test support area (Figure 4) contains facilities which could be used for the final assembly and checkout of both tactical and strategic missile systems. This assembly and test support area, like the Votkinsk facility, has a rectangular site plan and is road and rail served. It contains 13 rail-served missile assembly buildings, including five under construction. At least two of the buildings under construction are protected by earth barricades. Footings observed on imagery of [REDACTED] indicate that one additional rail-served assembly building will be constructed. The five buildings under construction are part of a major construction program which has been underway at Pavlograd since December 1977. Total roof cover of the 13 rail-served assembly buildings, complete or currently under construction, is 20,144 square meters. This number represents a significant increase in work space over that contained in the eight currently operational rail-served assembly buildings, which have 12,502 square meters of roof cover. When the construction program is completed, the Pavlograd assembly facility will be similar to the Votkinsk facility in overall arrangement and building layout. This similarity indicates that Pavlograd may soon be involved in

the final assembly of missiles.

12. (TSR) One rail line extends into the Pavlograd missile assembly facility. Spurs from this line extend or will extend to each of the 13 assembly buildings. Figure 5 shows a typical rail-served assembly building. Rail entrances to six of the buildings are offset from the centerlines of the buildings, whereas rail entrances to four of the buildings are along the centerlines of the buildings. This feature is in contrast to the Votkinsk facility where rail lines enter along the centerlines of 12 of the 13 assembly buildings. At Pavlograd the engineering and support wings are along the front and back of the assembly buildings, rather than being longitudinal wings as they are at Votkinsk.

13. (TSR) The Pavlograd missile assembly facility contains a rail shed (Figure 4) similar to those at Votkinsk. The shed is [REDACTED] and five [REDACTED] missile-associated railcars could be concealed within it. Support facilities for Pavlograd are situated near the entrance and consist of a steamplant, a fire station, an administration building, and several support buildings.

25X1

25X1

25X1

25X1

Petropavlovsk Probable Missile Assembly Facility

14. (TSR) This probable missile assembly facility is situated in an isolated area, 5 nm east of Petropavlovsk and 5 nm southeast of the Petropavlovsk Vehicle Assembly Plant. The proximity of these two facilities suggests an association similar to that at Votkinsk and at Pavlograd.

15. (TSR) The Petropavlovsk Probable Missile Assembly Facility is wall secured and road and rail served (Figure 6). The facility encompasses approximately 60 acres in an overall rectangular site plan similar to that of the two other assembly facilities. The facility has been under construction since December 1977 and contains two rail-served missile

assembly buildings under construction and footings and foundations for two additional probable assembly buildings. Figure 7 shows one of the partially constructed missile assembly buildings. Total roof cover of the two missile assembly buildings under construction is 3,197 square meters. The site layout and the construction of switches for additional rail spurs indicate that additional rail-served assembly buildings will be constructed at this facility.

16. (TSR) The rail line extends into the facility on the west side and branches in the assembly area before terminating in the support area. The support area, which consists of a steamplant, three support buildings, a security building, and footings for one additional building, is on the east side of the Petropavlovsk facility. No rail sheds have been constructed at the Petropavlovsk assembly facility.

25X1

Top Secret RUFF

25X1

25X1

REFERENCES

IMAGERY

(TSR) All relevant KEYHOLE imagery acquired through [] was used in the preparation of this report.

25X1

MAPS OR CHARTS

ACIC, US Air Target Chart, Series 200, Sheets 0155-20, 0163-7, and 0234-22, scale 1:200,000 (UNCLASSIFIED)

DOCUMENT

1. NPIC, [] RCA-09/0005/79, *SSM Developments at Selected Soviet Strategic Research, Development, and Production Installations (S)*, Mar 79 (TOP SECRET [])

25X1
25X1

RELATED DOCUMENTS*

- NPIC, [] RCA-09/0007/79, *Developments at Soviet Solid Propellant Production Facilities (TSR)*, Apr 79 (TOP SECRET RUFF [])
- NPIC, [] RCA-09/0019/79, *Petropavlovsk Vehicle Assembly Plant and Petropavlovsk Probable Missile Assembly Facility (S)*, Aug 79 (TOP SECRET [])

25X1
25X1
25X1
25X1

*No information was extracted from related documents for use in this report.

REQUIREMENT

Project 130072NJ

(S) Comments and queries regarding this report are welcome. They may be directed to [] Soviet Strategic Forces Division, Imagery Exploitation Group, NPIC, []

25X1
25X1

Top Secret



Top Secret